

Local Climatological Data

Annual Summary With Comparative Data

1974

WASHINGTON, D.C.

DULLES INTERNATIONAL AIRPORT



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Narrative Climatological Summary

Dulles International Airport is located on the Virginia piedmont about 23 miles east of the Blue Ridge Mountains and 12 miles east of the Bull Run and Catoctin Mountains. The Blue Ridge rises to about 2500 and the Bull Run Mountains to about 1500 feet MSL at their nearest points. About one and one half miles to the east the general downward slope of the terrain is interrupted by a poorly defined band of low hills that rise to about 150 feet above the airport. Field elevation is 323 feet. Air drainage is poor. The surrounding terrain is mostly low rolling hills about 1/4 wooded with the remainder in tillage and pasture.

A number of artificial ponds located on the airport contribute to the formation of local ground fog. With easterly winds there is an upslope effect from the Atlantic Ocean which is 140 miles and from Chesapeake Bay which is about 55 miles to the east. With westerly winds there is a slight foehn effect. There is a minor smoke source from a burning dump two and one half miles north of the field and a much greater source of smoke haze from Washington, D. C. and Baltimore when winds are easterly.

Records for the period beginning with 1963 indicate a freeze-free period of approximately 165 days extending from late April to the second week in October. The last occurrence of a

temperature as low as 32° in the spring has ranged from early April to the second week in May, and the first occurrence of 32° in the autumn has ranged from the first to the third week in October.

Based on 7 years of record, the climate of Dulles shows a stronger continental influence than Washington National Airport, which is located on tide-water 22 miles ESE. This difference is most noticeable in connection with nighttime temperature inversions which cause the average annual minimum temperature at Dulles to average 5° colder than Washington, while the daytime maximum temperatures average less than 2° colder. Under conditions of clear sky and calm winds at night Dulles has observed temperatures as much as 17° colder than Washington. During the period 1963-1969 Dulles has observed 1.0 inches or more of snow on 56 occasions as against 45 for Washington.

The most disruptive snow storm occurred in 1966. Snow began falling during the late morning of January 29 and continued for 25 hours with a total fall of 9.8 inches. Strong winds continued for several days afterward with peak gusts to 50 mph and consequent drifting to 18-20 feet in some parts of Loudoun County. Road clearance was not fully completed until about 10 days later.

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NATIONAL OCEANIC AND
ATMOSPHERIC ADMINISTRATION

ENVIRONMENTAL
DATA SERVICE

NATIONAL CLIMATIC CENTER
ASHEVILLE, N.C.

Average Temperature

Year	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Annual
1963	28.4	29.3	46.1	53.4	60.1	70.3	76.4	74.3	65.4	59.3	48.6	29.4	53.4
1964	33.4	30.9	43.1	50.6	64.6	73.3	76.3	72.2	66.7	51.9	47.5	38.9	54.1
1965	30.7	35.3	39.2	51.3	66.9	70.1	74.9	75.0	70.4	54.0	45.2	39.4	54.4
1966	28.4	31.7	43.3	48.6	60.8	71.5	76.5	74.0	63.6	51.8	44.9	33.0	52.3
1967	36.6	29.1	42.8	54.8	55.9	71.4	74.5	72.8	63.6	53.7	40.6	36.5	52.7
1968	28.2	30.8	46.2	53.1	58.6	70.0	75.6	75.6	66.8	56.4	46.1	31.9	53.3
1969	29.4	32.2	38.7	55.3	64.3	73.6	77.8	71.9	65.3	52.8	41.9	31.0	52.9
1970	23.9	32.7	37.8	52.5	63.5	68.9	74.0	72.2	69.1	56.3	45.7	36.3	52.8
1971	28.5	36.7	39.7	51.4	60.1	72.6	74.9	72.9	69.7	61.4	44.4	42.2	54.5
1972	35.8	32.6	42.8	51.3	61.8	67.4	75.9	73.3	68.0	51.5	42.0	37.3	53.5
1973	33.6	33.1	48.6	53.1	59.8	74.2	75.9	76.4	69.6	56.9	46.0	35.2	55.2
1974	37.8	32.5	44.6	54.3	61.1	67.1	73.5	74.4	66.3	53.3	46.1	36.6	54.0
RECORD													
MEAN	31.2	32.2	42.8	52.5	61.5	70.9	75.5	73.7	67.1	54.9	44.9	35.8	53.6
MAX	40.8	42.3	53.9	64.7	73.6	82.4	86.7	85.0	78.7	67.6	55.8	45.1	64.7
MIN	21.6	22.1	31.8	40.2	49.3	59.3	64.3	62.4	59.4	42.2	33.9	26.5	42.4

Heating Degree Days

WASHINGTON, DC
DULLES INTERNATIONAL AIRPORT

Season	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	Total
1962-63													
1963-64	0	0	76	177	485	1099	971	982	672	430	95	11	4998
1964-65	0	9	55	397	517	800	1057	824	793	406	41	44	4943
1965-66	0	6	35	337	588	785	1128	926	664	491	179	30	5169
1966-67	1	0	105	404	599	981	874	1002	682	317	263	12	5260
1967-68	0	0	96	352	724	876	1136	985	572	350	205	13	5309
1968-69	0	12	16	278	561	1020	1098	913	809	293	91	1	5092
1969-70	0	8	90	376	685	1047	1267	898	837	378	121	17	5724
1970-71	0	0	46	272	573	879	1121	786	776	401	168	5	5027
1971-72	0	2	34	141	631	699	901	935	687	404	117	46	4597
1972-73	2	3	38	414	686	788	964	886	500	371	186	1	4839
1973-74	0	0	24	257	564	917	837	905	621	329	168	21	4653
1974-75	0	0	77	358	574	873							

Cooling Degree Days

Year	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
1970	0	0	0	10	83	143	288	228	178	9	0	0	939
1971	0	0	0	0	21	237	316	255	181	35	19	0	1064
1972	0	0	6	3	25	123	346	268	134	4	0	0	909
1973	0	0	0	20	30	281	344	358	168	15	0	0	1216
1974	0	0	4	15	53	90	270	299	127	3	11	0	872

Precipitation

Year	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Annual
1963													
1964	5.56	4.50	2.82	3.68	0.80	1.36	3.09	2.49	3.72	1.96	1.80	4.19	35.97
1965	3.24	2.58	4.27	2.53	1.77	1.75	3.94	3.75	2.28	1.87	0.46	0.42	28.86
1966	4.22	3.90	1.24	4.38	3.84	0.94	2.17	1.79	9.39	3.01	1.50	3.67	40.05
1967	1.12	2.18	4.74	0.93	4.37	1.68	3.38	9.28	0.62	2.79	2.81	5.69	39.39
1968	2.31	0.88	3.36	1.29	5.90	5.23	4.08	4.90	2.10	2.77	3.57	2.32	38.48
1969	2.07	1.69	2.04	1.34	0.99	5.53	4.90	5.07	4.89	0.85	2.11	4.76	39.24
1970	1.32	2.76	2.98	4.19	2.86	2.48	6.00	2.65	1.03	2.79	6.00	3.88	38.94
1971	2.27	4.68	2.27	2.56	8.47	2.81	2.15	4.45	3.63	9.19	3.13	1.00	46.61
1972	2.28	5.44	2.37	4.40	4.76	18.19	1.53	2.09	1.40	3.44	7.09	6.06	59.05
1973	2.25	2.84	2.66	7.35	3.97	1.91	4.99	3.18	3.14	2.57	0.81	3.72	41.49
1974	3.07	1.14	3.09	2.14	3.78	5.41	2.69	4.84	4.02	0.71	1.97	5.26	38.12
RECORD													
MEAN	2.70	2.94	3.02	3.00	3.59	4.66	3.35	4.10	3.29	2.67	3.24	3.93	40.49

Snowfall

Season	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	Total
1962-63	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1963-64	0.0	0.0	0.0	0.0	0.0	T	9.0	10.8	14.9	9.3	0.6	0.0	44.6
1964-65	0.0	0.0	0.0	0.0	0.2	1.0	10.1	2.1	2.9	T	0.0	0.0	16.3
1965-66	0.0	0.0	0.0	0.0	T	0.3	19.0	11.3	T	T	0.0	0.0	30.6
1966-67	0.0	0.0	0.0	0.0	0.2	24.2	1.4	18.0	0.7	0.0	0.0	0.0	44.4
1967-68	0.0	0.0	0.0	0.0	11.4	4.9	3.3	4.5	8.4	0.0	0.0	0.0	30.5
1968-69	0.0	0.0	0.0	0.0	3.8	T	0.1	7.2	10.4	0.0	0.0	0.0	29.5
1969-70	0.0	0.0	0.0	0.0	T	15.9	9.8	3.6	0.9	T	0.0	0.0	30.2
1970-71	0.0	0.0	0.0	0.0	T	9.2	7.5	0.2	2.4	0.3	0.0	0.0	19.6
1971-72	0.0	0.0	0.0	0.0	2.9	T	T	16.9	0.2	0.4	0.0	0.0	20.4
1972-73	0.0	0.0	0.0	0.1	0.6	0.0	T	0.3	0.2	1.0	0.0	0.0	2.2
1973-74	0.0	0.0	0.0	0.0	T	10.7	1.0	7.0	0.2	0.0	0.0	0.0	18.9
1974-75	0.0	0.0	0.0	T	T	1.0							
RECORD													
MEAN	0.0	0.0	0.0	T	1.8	6.4	5.4	7.5	2.9	0.2	T	0.0	24.2

Indicates a station move or relocation of instruments. See Station Location table.

Record mean values above are means through the current year for the period beginning in 1963.

STATION LOCATION

WASHINGTON, D. C.
DULLES INTERNATIONAL AIRPORT

Location	Occupied from	Occupied to	Airline distance and direction from previous location	Latitude North	Longitude West	Elevation above										Remarks
						Sea level	Ground								Sea level	
						Ground at temperature site	Wind instruments	Extreme thermometers	Psychrometer	Telepsychrometer	Tipping bucket rain gage	Weighing rain gage	8" rain gage	Hygrothermometer	Pyranometer	
Telephone Building Dulles International AP	11/17/62	Present		38° 57'	77° 27'	290	20							a34	5	a - Commissioned 3/1/63.

Requests for additional climatic information should be addressed to: Director, National Climatic Center, Federal Building, Asheville, N. C. 28801

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